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THE PSYCHOLOGICAL AND COGNITIVE ASPECTS OF TEACHING ENGLISH AS A SECOND LANGUAGE--SAN ANTONIO, TEXAS, RESEARCH PROJECT.

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DESCRIPTIONS WERE GIVEN OF TWO OPERATIONAL FRAMEWORKS FOR THE INSTRUCTION OF EDUCATIONALLY DISADVANTAGED, SPANISH-SPEAKING CHILDREN BETWEEN THE AGES OF 6 AND 9 IN THE FIRST AND SECOND GRADES OF AN ENGLISH-SPEAKING, MIDDLE-CLASS, SCHOOL ENVIRONMENT. THESE FRAMEWORKS, DESIGNATED AS "THE SCIENCE-BASED MODEL" AND "THE SELF-CONCEPT MODEL," WERE DESIGNED TO PROMOTE THE DEVELOPMENT OF ORAL LANGUAGE AND THE ACQUISITION OF BASIC COGNITIVE PATTERNS. THE PROGRAMS WERE DEVELOPED TO ASSIST THESE CHILDREN OVERCOME THE LANGUAGE BARRIER AND THE BARRIER OF DISADVANTAGEDNESS THAT BLOCK MANY OF THEM FROM ACHIEVING SUCCESS IN SCHOOL. FOR THE SCIENCE-BASED MODEL SELECTED SCIENTIFIC CONCEPTS WERE ANALYZED AND ARRANGED ACCORDING TO CONCEPT DEVELOPMENT. PATTERNS OF THINKING AND REASONING WERE USED TO STRUCTURE SCIENTIFIC LEARNING INTO A PROGRAM OF SEQUENTIALLY ORGANIZED LEARNING EXPERIENCES. THE PRIMARY PURPOSE OF THE SELF-CONCEPT MODEL WAS THE DEVELOPMENT OF A POSITIVE AND STABLE SELF-CONCEPT, OR SENSE OF PERSONAL IDENTITY, WHICH LIES AT THE HEART OF PERSONALITY DEVELOPMENT. A SUPPORTING PROGRAM WAS DEVELOPED FROM EACH OF THESE MODELS. AT THE TIME OF REPORTING, THE PROGRAMS WERE BEING TAUGHT IN THE SAN ANTONIO INDEPENDENT SCHOOL DISTRICT, SAN ANTONIO, TEXAS. (AL)

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THE PSYCHOLOGICAL AND COGNITIVE ASPECTS OF TEACHING ENGLISH AS A SECOND LANGUAGE: SAN ANTONIO, TEXAS, RESEARCH PROJECT

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Introduction

In speaking to the topic of the psychological and cognitive aspects involved in the teaching of English as a second language, the significance of these aspects and the theoretical models in which they are organized for this paper can only be understood in relation to the target populatio. for whom this teaching is planned. In this case, the target population consists of a group of educationally disadvantaged Spanish-speaking children between the ages of six and nine in the first and second grades of an English-speaking middle class school environment. Most of these children come from a tradition of grinding poverty--and all that such poverty signifies. Their English is either minimal or non-existant.

Hence, there are really two barriers to be considered with this popula-tion: one is the language barrier; the other is the disadvantagedness barrier. The effects of the language barrier in relation to academic learning are dis-cussed first. Ordinarily a child develops considerable proficiency in the listening and speaking of his language in the six or so years prior to his entrance into school. Upon his entrance into school, the teacher makes immediate use of this very considerable development in oral-aural language, continues to refine it, and very shortly begins the task of teaching the child the visual aspects of language, i.e., reading and writing. For the Spanish-speaking child, his development in oral language is ignored--and, in being ighored, rejected. As far as the English language is concerned, he is cata-pulted back to the zero point of oral language development. Coupled with this shock comes the almost immediate instruction in reading and writing in English. Spanish speaking children show us the inappropriateness of this procedure by failing the primary grades in droves--usually at the rate of around sixty to eighty per cent. The main reason given for the failure is the inability to read adequately. And, of course, lying behind and making a sizable contribution to the reading failure, is the language barrier.

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Quite apart from the language barrier--a major problem in and of itself--is another barrier which is just as major, although not, perhaps, as immediately obvious. This second barrier might be termed the disadvantagedness barrier, and its effects are apparent in the classroom. Some of this barrier's more striking manifestations observed when the children were in their first weeks of school were: 1) a minimal attention span; 2) minimal development of auditory and visual discrimination; 3) minimal experiential background for the type of content appearing in the tests and beginning instructional materials; 4) lack of variety and information even in their native language on such topics as their own families and names--some of them did not even know their surnames; 5) fear, apathy, or insensitivity toward the school environment--their powers of observation seemed curiously dulled or, perhaps, undeveloped; 6) general inadequacy in such simple cognitive abilities as simple direction-following, labelling, classifying, and visual discrimination of gross differences among objects--even when spoken to in Spanish; and 7) marked nutritional deficiencies.

With this brief description of some of the characteristics of the target population and some indication of both the language and disadvantagedness barriers in mind, I shall present two operational frameworks which are aimed at overcoming both barriers. Both frameworks proceed from a conception of language viewed as a highly organized system of arbitrary sounds and visual symbols used for expressive and receptive communication in all its many facets. Language thus conceived becomes a vehicle for learning, thinking, organizing experiences, expressing needs and opinions, testing ideas, attaining to various group memberships, and becoming (Allport, 1955). In this conception, the language of an individual becomes inextricably intertwined with his psychological characteristics and cognitive processes. In these frameworks, language, psychological features, and the cognitive processes are interrelated.

The two frameworks to be described are termed for purposes of this paper, the "Science-based Model" and the "Self-concept Model." Both frameworks have supporting programs currently being taught in the San Antonio Independent School District, San Antonio, Texas. The Science-based Model is described first.

The Science-Based Model

Category 1: The Starting Points for the Program

Category 1 contained three elements for the actual writing of the specific sets of experiences. Element One was science. In this case, use was made of selected topics from the science program developed by AAAS: A Process Approach to Science. Hence science constituted the content area or subject-matter for developing the language, psychological, and cognitive aspects of the program. The specific topics were then analyzed for structure of concepts, supporting terminology, and the types of relationships being developed among the concepts. Element Two was cognition, which entered into the model in two ways. One way was in terms of concept development. That is, the science concepts were analyzed and arranged according to: a) the level of generality or abstraction embedded in or implied by a concept, e.g., shape versus circle; and b) the amount of experiential background required for meaningful development of concepts at a level appropriate for these children. That is, how many and what kinds of experiences would probably be required for the language designation and the meaning of a term, concept, and/or relationship to become a usable part of a child's cognitive structure. The second way cognition entered in was through the patterns of thinking or reasoning which would be used to structure the experiences. Based on the research from disadvantagedness, concept formation, and child development, the several cognitive patterns and combinations of patterns selected were developed in the order cited here: a) inductive; b) inductive-deductive; c) deductive; and d) analogical and imaginative. Element Three was language, namely, the functional and grammatical aspects combined. Attention was also given to the phonological likenesses and differences between English and Spanish when they occurred in the sentence patterns. The working out of these three elements can be directly observed in the objectives, language patterns, and types of activities planned for each of the learning experiences.

Category 2: Criteria for Program Design

Category 2 was made up of the criteria for the design of the program. It was composed of major findings from four general areas as they related

to the acquisition of the necessary experiential background for oral language and reading development. The four areas are: a) educational disadvantagedness; b) reading; c) child psychology; and d) learning theory and principles. These findings, considered in the role of criteria, directly influenced the translation of the three elements of Category 1 in the concrete learning experiences of the program.

Category 3: Procedural Aspects for the Teaching-Learning Process

Category 3 comprised the procedural aspects of the teaching-learning process. These aspects were: a) the audiolingual technique; b) the specific activities devised and the progression into which they were to be arranged; and c) specific materials to be used by the teachers and the children in the various activities to assure the necessary experiential background for thinking and talking to take place. These three aspects were interlocked into all learning experiences and became the vehicle through which to transmit the concepts, cognitive patterns, and language structures.

Translation of the Science-based Model into a Program of Learning Experiences

The translation of the Science-based Model into a program of sequentially organized learning experiences is exemplified by the first topic, Space 1: Two-dimensional Shapes. Based on an analysis of the concepts involved in this topic, the concepts of circle, square, triangle, rectangle, and ellipse were considered to be less abstract than that of the class concept, shape. In developing an understanding of these concepts and the relationships among them, the least time-consuming procedure would have been to proceed in a generally deductive pattern. By introducing the concept label, shape, and then citing examples of it, both the general class concept and the lower-order concepts could conceivably be learned together. Variants of this model are commonly used for learning experiences in the elementary school. However, this procedure assumes the existence of the ability not only to think in categories but to be able to apply them as well. It also assumes the ability to handle higher- and lower-order concepts simultaneously in a logical hierarchy. Both our observations of these children and reports of other research suggested that the deductive pattern might be less effective than an inductive pattern.

In the inductive pattern, the lower-order concepts, e.g., circle, ellipse, rectangle, in this particular case, would be introduced first, using many examples. The general concept, shape, would be introduced only after specific kinds of shapes had been learned. After a concept was introduced, it could then be applied to other instances in the typical deductive pattern. Instead of trying for a hierarchy of concepts all at once, the learning would proceed a level at a time with each level related to those preceding it. Refinements of the concepts could also be introduced as more experiences and examples were added. In time, the hierarchical relationship would be constructed but not all at once. With the base of inductive and deductive patterns established, the systematic development of the analogical and imaginative patterns could be undertaken. Simultaneously, the foundation for the concepts and patterns could be applied to expanding and refining the concept, shape, with the introduction of the second topic, "Space 2, Three-dimensional Shapes." The actual working out of Elements One and Two, science and cognition, appears in sections of the lesson plans termed, "Conceptual Build-up" and "Terminology."

Element Three, language, entered in as the "Conceptual Buildup" was translated into the language patterns of the question-answer dialogues through which the cognitive patterns, terminology, and concepts were to be taught. The task here was to introduce and then habituate the basic language structures for organizing and communicating experiences. For example, the pattern, "Is this a (rectangle)? Yes, it is. It's a (rectangle)," taught the children one of the most basic structural and functional patterns in English, i.e., labeling. This pattern once learned could then have the noun slot filled with any noun referring to an object, e.g., ball, book, chalk, car, toy. The grammatical structure of the language patterns gradually increased in complexity as the cognitive task and concepts increased in generality and difficulty.

The phonological aspects entered in as the language structures and their sound patterns produced sharp gaps between the two languages in specific types of phonemic units, intonation, pronunciation, and stress. Element Three, language, appears in the section of the plans entitled, "Structure Models." The combining of the three elements are clearly revealed in the basic dialogues of the lesson plans.

The influence of the criteria of Category 2 is reflected in the plans through the provisions made for: 1) giving the basic terminology for and concrete experiences directly related to a concept before moving up to the language for the general concept itself; 2) using further direct illustrations for a concept once it was introduced in the language patterns; 3) teaching inductive pattern of thinking within a topic before attempting the deductive and analogical patterns; 4) giving every child his own personal set of objects to work with; 5) providing reinforcement or follow-up activities in the form of games after virtually every lesson; 6) consciously attempting to appeal to more than one sensory pathway through the types of illustrative experiences used with the language patterns being taught; 7) writing readiness materials using a regular content field as preparation for later reading and writing within this and other content fields; and 8) selecting and developing topics requiring both the use of one of the five basic senses and the use of the language uniquely associated with a particular sense.

In skeletal form, both the categories for and the implementation of the Science-based Model for overcoming the two barriers of language and some of the cognitive and psychological aspects of disadvantagedness have been described.

The Self-concept Model

The second model to be described, the Self-concept Model, has several categories and employs similar procedures to those of the Science-based Model. However, the Self-concept Model is, perhaps, more ambitious in its scope. Like the Science-based Model, this model is concerned with the development of oral language and the acquisition of basic cognitive patterns. But its primary purpose is the development of a positive and stable self-concept or sense of personal identity which lies at the heart of personality development. Hence, this model is intended to assault the disadvantagedness barrier at a more fundamental level than the Science-based one.

The idea for a possible program in this area occurred to me as a result of observing the concrete manifestations and effects in the classroom of such factors as implicit school policy, severe economic deprivation, and

differences in the value systems between home and school. These factors yielded a discouraging picture of an environment for children to develop and maintain feelings of self-esteem, a clear sense of direction, group memberships, and relatively conflict-free identifications and values.

The problems of developing a model for a program dealing directly with the development of a positive and stable sense of personal identity or self-concept were legion. Among some of the major problems were the following: 1) the analysis of research, clinical reports, and theoretical writing for the specific components of the self-concept which could then be translated in concrete learning experiences making use of everyday situations with particular reference to academic learning; 2) the reality that the children for whom this program would be designed were already at least six years old--and the program would start after the development process of the self-concept, however adequate or inadequate, was already well under way; and 3) the attempt to find universal values, i.e., values which pertain to the successful survival and, hopefully, the self-realization of any individual in a democratic society. The model, as described below, is highly experimental and still evolving.

Category 1: The Starting Points for the Program

Again, Category 1 contained these elements for the actual writing of the specific set of learning experiences. Element One, the content element, was comprised of the analysis of the components into a hypothesized sequential process of development. The progression proceeded from the simplest and most basic facts about an individual, e.g., the child's name, street address, and physical description, to rather complex relationships, e.g., his roles in home and school settings. The broad area from which the content was drawn can be considered as the social studies. Throughout the program is the reiteration of one basic theme, although it takes many forms, namely, that the child should develop an awareness of himself as a distinct person of value having continuity in time and space (Erickson, 1963). From the analysis of the components in the self-concept three successive levels were evolved. The learning experiences for first and second levels are already in operation in San Antonio.

Level 1 consists of: 1) the differentiation of the child from those around him based on such unique and personal characteristics as his name, his family, his street address, his own physical characteristics, and his particular likes and dislikes; and 2) the perception/understanding that he already was a member of certain groups, i.e., family, school, and community. These were to be developed through such understandings as having classmates, being in the same school as other children, having the same teacher, having brothers and sisters.

Level 2 consists of understanding and being able to express the relationships to academic learning and reading of: 1) the five basic senses, e.g., vision and hearing; 2) already acquired abilities, e.g., having already learned to speak Spanish, one can learn to speak English; and 3) previous experiences and knowledge, e.g., if one has experienced and knows what some flowers are like, then one can learn about other flowers.

Level 3 will simultaneously combine several facets: 1) the expansion and refinement of the child's understandings of his memberships and roles in the environments of home, school, and community introduced in Level 1; and 2) the mastery of the language used to label and describe the objects, events, and participants within these environments, 3) the potential psychological mastery of these objects, events, and roles through understanding their characteristics and functions; and 4) a further continuation of the child's exploration of his own traits and capabilities.

Element Two was again cognition, and incorporated both concept development and the cognitive patterns. However, different sets of concepts and relationships were involved, e.g., I, me, family, school, class, classmate, teacher. The criteria of generality and amount of experiential background required for a concept were expanded to include the urgency for knowing a concept or a relationship. That is, what did the child need to know first in the school setting, e.g., how to express his physical needs. The same general cognitive patterns were again employed, but with some variation due to the rather abstract nature of most of the facets considered to undergird and to compose the concept of self. Even the less abstract components could not be as concretely illustrated as could the concepts of the science-based model. Considerable bridging would have to be done in the form of

concrete experiences and language to develop the relationships between what the child could already do and what he would be needing to learn, e.g., "If I can see words, I can learn to read words." Hence in this model, the inductive and (imaginative) analogical patterns would be used together, followed by deductive and (imaginative) speculative patterns.

Element three was language with heavy stress being placed upon the functional and grammatical aspects. Attention to the phonological aspects was given when sharp differences between the sound patterns of English and Spanish occurred.

Category 2: Criteria for Program Design

As before, the second category comprised findings from the several areas. These areas were: a) educational disadvantagedness; b) child development; c) the areas from which the analysis for the components of the self-concept were drawn, e.g., psychoanalysis, ego psychology, personality theory; d) staff observations and notes concerning the Spanish-speaking child as we watched him in the regular classroom; and e) learning principles.

Category 3: Procedural Aspects of the Teaching-Learning Process

Category 3 again comprised the procedural aspects of the teaching-learning process. These aspects were: a) a new variation of the audio-lingual technique in which individual responding was interwoven with group responding; b) specific activities and the progression into which they were to be arranged; and c) materials to be produced by the teachers and children to assure the experiential background for the concepts and relationships being developed. A striking feature of these learning experiences was the amount of role-playing and dramatic acting out included.

Translation of the Self-concept Model into a Program of Learning Experiences

The translation of the Self-concept Model into a program of sequentially organized learning experiences can only be suggested here by citing an illustration from the first learning experience of Level 1. In Lesson Plan 1, as in all the plans of Level 1, two major ideas are developed from the basic theme of the self-concept. One idea was to differentiate oneself from others; the other to perceive oneself as being a member of several groups.

These ideas and the basic theme are reflected in the section entitled, Conceptual Build-up." To assure that each child would acquire both the understanding of and the language for differentiating himself from others, these lesson plans had to provide the basic information for this differentiation and then relate it specifically to the child himself. Definitely distinctive and unique characteristics about any child at this stage of his development are his own name and sex. For this particular kind of child, his name should not be treated like a label pasted on a jar, as might be implied by the pattern, "What is your name? My name is _____." Rather, it should be treated directly as an integral part of the child himself, as might be implied by the pattern, "Who are you? I am _____." In designing these lessons, the subtle connotative differences among seemingly equivalent patterns were taken into consideration.

An activity for the child's differentiating himself from others had him look at himself in a full-length mirror as the teacher asked, "Who are you?" In responding, he "checked" in the mirror as he responded and pointed to himself. A variation on the repetition was then to follow up by having the class respond to a question about this particular child. Indicating the child before the mirror, the teacher--and, later, other children--asked, "Who is he/she?" And the class, pointing to the particular child answered, "He/she is _____." Hence a two-way reinforcement could be secured through the child's seeing and talking about himself followed by the teacher's and the group's confirmation.

In this paper, two operational models have been described which have as their primary purposes overcoming the two deadly barriers of language and disadvantagedness. The extent to which these models and the programs emanating from them will be successful in removing these barriers remains to be seen, but our preliminary observations of the programs in action appear to be promising. Examples of the major categories involved in each of the two models are available upon request.